

Code: 9A02707

B.Tech IV Year I Semester (R09) Supplementary Examinations June 2017

**SOFT COMPUTING TECHNIQUES**

(Electrical &amp; Electronics Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

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- 1 (a) Discuss in detail the historical development of artificial neural network.  
(b) Why is the McCulloch-Pitts neuron widely used in logic functions? Justify your answer.
- 2 (a) Discuss the different types of operations in artificial neuron.  
(b) Describe the learning strategies of artificial neural networks.
- 3 (a) What is the importance of threshold in perceptron network? Explain briefly.  
(b) Write the testing algorithm of back-propagation network.
- 4 (a) Specify the functional difference between a RAM and a CAM.  
(b) Discuss the testing algorithm used in discrete Hopfield network.
- 5 (a) Consider set  $X = \{2, 4, 6, 8, 10\}$  then find its power set, cardinality and cardinality of power set.  
(b) Explain the operations and properties over a fuzzy relation.
- 6 (a) Define membership function and discuss its importance in fuzzy logic.  
(b) Write the seven methods of the defuzzification techniques.
- 7 What is meant by genetic algorithm? Draw a neat flowchart and explain the operation of a simple genetic algorithm.
- 8 Discuss about the fuzzy logic based approach to solve the unit commitment problem.

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